

1/20

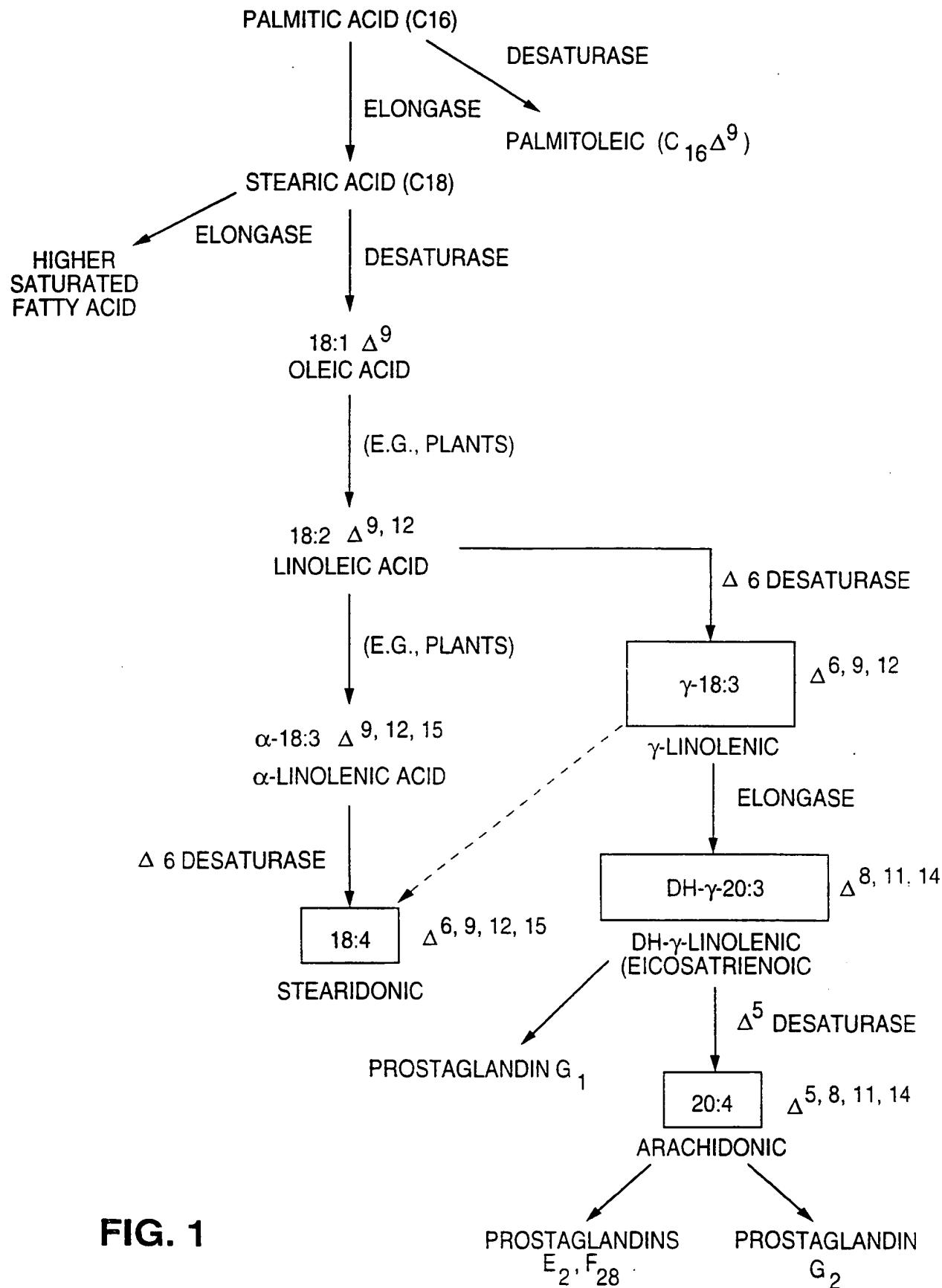


FIG. 1

APPROVED	C.G. FIG.
BY	WO 98/07126
DRAFTSMAN	CLASS SUBCLASS

09/367013
PCT/US98/07126

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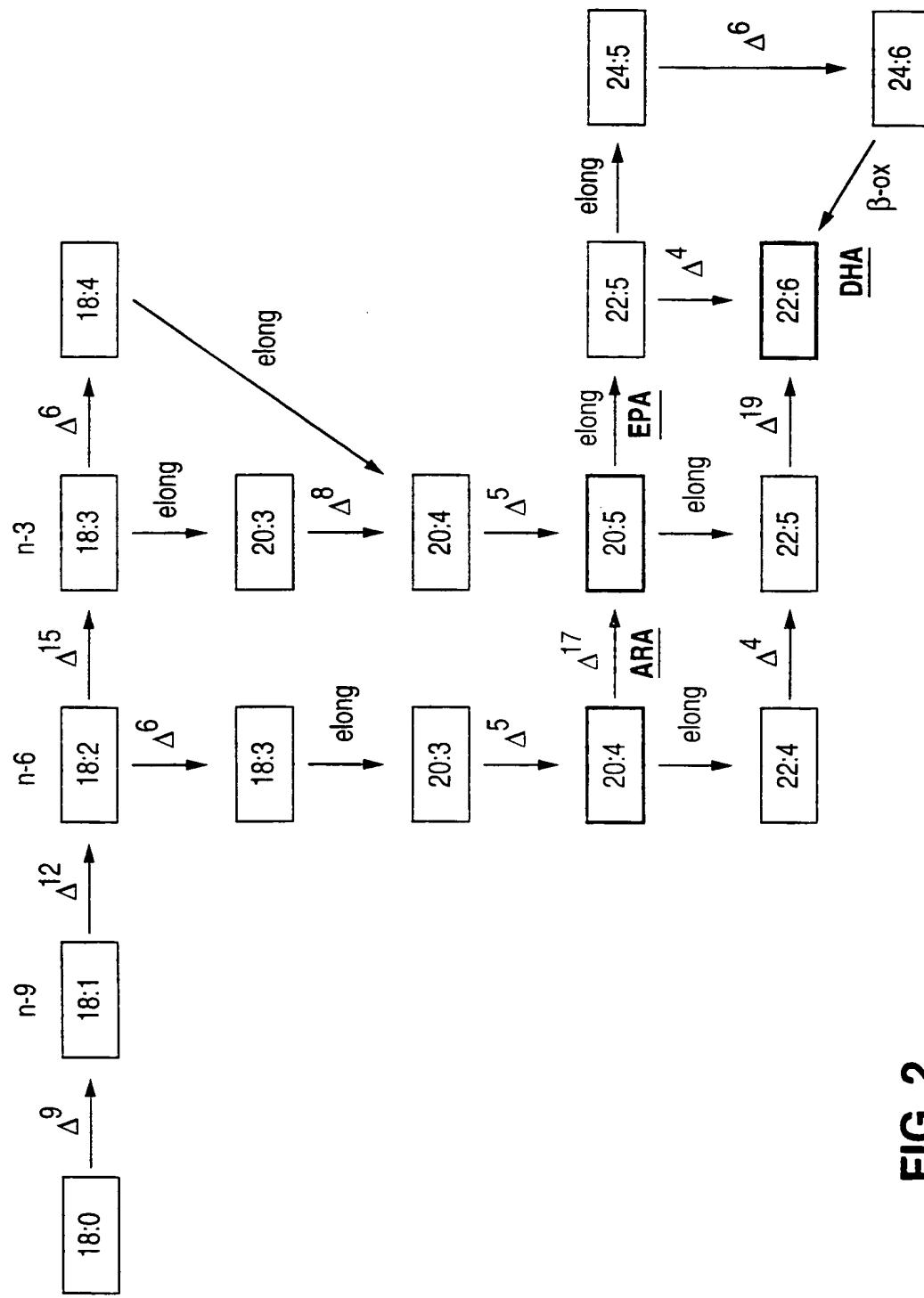


FIG. 2

APPROVED BY DRAFTSMAN	O. G. FIG. CLASS 54157655
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PCT/US98/07126

60 *

CGACACTCCT TCCTTCTT CACCCGTCCT AGTCCCCCTC AACCCCCCTC TTTGACAAAG

ACAACAAACC ATG GCT GCT CCC AGT GTG AGG ACG TTT ACT CGG GCC GAG
Met Ala Ala Pro Ser Val Arg Thr Phe Thr Arg Ala Glu Ala

120

GTT TTG AAT GCC GAG GCT CTG AAT GAG GGC AAG AAG GAT GCC GAG GCA
Val Leu Asn Ala Glu Ala Leu Asn Glu Gly Lys Lys Asp Ala Glu Ala

180

* CCC TTC TTG ATG ATC ATC GAC AAC AAG GTG TAC GAT GTC CGC GAG TTC
Pro Phe Leu Met Ile Ile Asp Asn Lys Val Val Asp Val Arg Glu Phe

240

GTC CCT GAT CAT CCC GGT GGA AGT GTG ATT CTC ACG CAC GTT GGC AAG
Val Pro Asp His Pro Gly Gly Ser Val Ile Leu Thr His Val Gly Lys

300

* GAC GGC ACT GAC GTC TTT GAC ACT TTT CAC CCC GAG GCT GCT TGG GAG
Asp Gly Thr Asp Val Phe Asp Thr Phe His Pro Glu Ala Ala Trp Glu

360

ACT CTT GCC AAC TTT TAC GTT GGT GAT ATT GAC GAG AGC GAC CGC GAT
Thr Leu Ala Asn Phe Tyr Val Gly Asp Ile Asp Glu Ser Asp Arg Asp

* ATC AAG AAT GAT GAC TTT GCC GGC GAG GTC CGC AAG CTG CGT ACC TTG
Ile Lys Asn Asp Phe Ala Ala Glu Val Arg Lys Leu Arg Thr Leu

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APPROVED	J. G. FIG.
BY	CLAVO 9846763
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TTC	CAG	TCT	CTT	GGT	TAC	TAC	GAT	TCT	TCC	AAG	GCA	TAC	TAC	GCC	TTC
Phe	Gin	Ser	Leu	Gly	Tyr	Tyr	Asp	Ser	Ser	Lys	Ala	Tyr	Tyr	Ala	Phe
AAG	GTC	TCG	TTC	AAC	CTC	TGC	ATC	TGG	GGT	TTG	TCG	ACG	GTC	ATT	GTC
Lys	Val	Ser	Phe	Asn	Leu	Cys	Ile	Trp	Gly	Leu	Ser	Thr	Val	Ile	Val
GCC	AAG	TGG	GGC	CAG	ACC	TCG	ACC	CTC	GCC	AAC	GTG	CTC	TCG	GCT	GCG
Ala	Lys	Trp	Gly	Gly	Gly	Ser	Thr	Leu	Ala	Asn	Val	Leu	Ser	Ala	Ala
CTT	TTG	GGT	CTG	TTC	TGG	CAG	TGC	GGA	TGG	TTG	GCT	CAC	GAC	TTT	
Leu	Leu	Gly	Leu	Phe	Trp	Gly	Trp	Gly	Trp	Leu	Ala	His	Asp	Phe	
TTG	CAT	CAC	CAG	GTC	TTC	CAG	GAC	CGT	TTC	TGG	GGT	GAT	CTT	TTC	GCG
Leu	His	His	Gly	Vai	Phe	Gly	Asp	Arg	Phe	Trp	Gly	Asp	Leu	Phe	Gly
GCC	TTC	TTG	GGA	GGT	GTC	TGC	CAG	GGC	TTC	TCC	TCG	TGG	TGG	AAG	
Ala	Phe	Leu	Gly	Gly	Vai	Cys	Gly	Phe	Ser	Ser	Ser	Trp	Trp	Lys	
GAC	AAG	CAC	AAC	ACT	CAC	CAC	GCC	CCC	CCC	AAC	GTC	CAC	GGC	GAG	GAT
Asp	Lys	His	Asn	Thr	His	His	Ala	Ala	Ala	Pro	Asn	Val	His	Gly	Glu

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FIG. 3B

780

APPROVED BY	O.G. FIG.
DRAFTSMAN	WE 98/367013 CLASS 520 CLASS

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CCC	GAC	ATT	GAC	ACC	CAC	CCT	CTG	TTG	ACC	TGG	AGT	GAG	CAT	GCG	TTG
Pro	Asp	Ile	Asp	Thr	His	Pro	Leu	Leu	Thr	Trp	Ser	Glu	His	Ala	Leu
GAG	ATG	TTC	TCG	GAT	GTC	CCA	GAT	GAG	GAG	CTG	ACC	CGC	ATG	TGG	TCG
Gl u	Met	Phe	Ser	Asp	Val	Pro	Asp	Gl u	Gl u	Leu	Leu	Thr	Arg	Met	Trp
		*													Ser
CGT	TTC	ATG	GTC	CTG	AAC	CAG	ACC	TGG	TTT	TAC	TTC	CCC	ATT	CTC	TCG
Arg	Phe	Met	Val	Leu	Asn	Gln	Thr	Trp	Trp	Phe	Tyr	Phe	Pro	Ile	Leu
															Ser
900															
TTT	GCC	CGT	CTC	TCC	TGG	TGC	CTC	CAG	TCC	ATT	CTC	TTT	GTG	CTG	CCT
Phe	Ala	Arg	Leu	Ser	Trp	Cys	Leu	Gln	Ser	Ile	Leu	Phe	Val	Leu	Pro
AAC	GGT	CAG	GCC	CAC	AAG	CCC	TCG	GGC	GGC	CGT	GTG	CCC	ATC	TCG	TG
Asn	Gly	Gin	Ala	His	Lys	Pro	Ser	Gly	Ala	Arg	Val	Val	Pro	Ile	Ser
															Leu
1020															
GTC	GAG	CAG	CTG	TCG	CTT	GCG	ATG	CAC	TGG	ACC	TGG	TAC	CTC	GCC	ACC
Val	Glu	Gin	Leu	Ser	Leu	Ala	Met	His	Trp	Thr	Trp	Tyr	Tyr	Leu	Ala
															Thr
ATG	TTC	CTG	TTC	ATC	AAG	GAT	CCC	GTC	AAC	ATG	CTG	GTG	TAC	TTT	TTG
Met	Phe	Leu	Phe	Ile	Lys	Asp	Pro	V al	Asn	Met	Leu	V al	Tyr	Phe	Leu
1080		*													
G TG	TCG	CAG	GCG	G TG	TGC	GGA	AAC	TTG	TTG	GCG	ATC	GTG	TTC	TCG	CTC
Val	Ser	Gin	Ala	Val	Cys	Gly	Asn	Leu	Leu	Ala	Ile	Val	Phe	Ser	Leu

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FIG. 3C

APPROVED	C.G. FIG.
BY	WO98/46763
DRAFTSMAN	CLASS SUBCLASS

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AAC	CAC	AAC	GGT	ATG	CCT	GTG	ATC	TCG	AAG	GAG	GCG	GTC	GAT	ATG
Asn	His	Asn	Gly	Met	Pro	Val	Ile	Ser	Lys	Glw	Ala	Vai	Asp	Met
1140														
GAT	TTC	TTC	ACG	AAG	CAG	ATC	ATC	ACG	GGT	CGT	GAT	GTC	CCG	GGT
Asp	Phe	Phe	Thr	Lys	Gln	Ile	Ile	Thr	Gly	Arg	Asp	Vai	His	Pro
1200														
CTA	TTT	GCC	AAC	TGG	TTC	ACG	GGT	GGA	TTG	AAC	TAT	CAG	ATC	GAG
Leu	Phe	Ala	Asn	Trp	Phe	Thr	Gly	Gly	Leu	Asn	Tyr	Gln	Ile	Glu
1260*														
CAC	TTG	TTC	CCT	TCG	ATG	CCT	CGC	CAC	AAC	TTT	TCA	AAG	ATC	CAC
His	Leu	Phe	Pro	Ser	Met	Pro	Arg	His	Asn	Phe	Ser	Lys	Ile	Gln
1320														
GCT	GTC	GAG	ACC	CTG	TGC	AAA	AAG	TAC	AAT	GTC	CGA	TAC	CAC	ACC
Ala	Val	Glu	Thr	Leu	Cys	Lys	Lys	Tyr	Asn	Vai	Arg	Tyr	His	Thr
1380*														
GGT	ATG	ATC	GAG	GGA	ACT	GCA	GAG	GTC	TTT	AGC	CGT	CTG	AAC	GAG
Gly	Met	Ile	Glw	Gly	Thr	Ala	Glw	Vai	Phe	Ser	Arg	Leu	Asn	Val
1440*														
TCC	AAG	GCT	GCC	TCC	AAG	ATG	GGT	AAG	GCG	CAG	TAAAAAA	AAACAAGGAC		
Ser	Lys	Ala	Ala	Ser	Lys	Met	Gly	Lys	Ala	Gln				

APPROVED	O.G. FIG.
BY	CLAWO 98/16763S
DRAFTSMAN	

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1500 * GCCAGTGCCT GTGCCTGTGC CTGCTTCCCT TGTCAGTCG AGCGTTCTG
 1560 * GAAAGGATCG TTCAAGTGCAG TATCATCATT CTCCTTTAC CCCCCGGCTCA TATCTCATTC
 ATTCTCTTA TTAAACAACT TGTTCCCCCC TTCAACCG

FIG. 3E

APPROVED	C. FIG.
BY	CLAWO 9846763
DRAFTSMAN	

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Ma524	[EVRKLRTLFQSLLGGYYDSSSKAYYAFKVSFNLCIWGLSTVIVAKWQGTSTLANVLSAALLGL	90
ATTs4723	-----	-----
12-5	-----	-----
T42806	-----	-----
W28140	-----	-----
R05219	-----	-----
W53753	-----	-----

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Ma524	[FWQQCCGWLAAHDFLHHHQVFQDRFWGDLFGAFLGGVC	119
ATTs4723	[SGHYVIMSNSNNX	120
12-5	[SGHYVIMSNSNSYNR	121
T42806	-----	-----
W28140	-----	-----
R05219	-----	-----
W53753	-----	-----

Ma524	[DPDIDTHPLLTWSSEHALEMFSDVPDDEELTRMWS	174
ATTs4723	[GP[NLQHIP	105
12-5	[DPDLQHIPVFAVSTK	140
T42806	-----	4
W28140	-----	1
R05219	-----	2
W53753	-----	1

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FIG. 4A

APPROVED	C.G. FIG.
BY	CLASS SUBCLASS
DRAFTSMAN	

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CLQ S I L F V L P N G Q A H K P S G A R V P I S L V E Q L S L A M	H W T W Y L A T M F L F I K D P V N M L V	229
F I Q T F L L F S K R E - - - - -	W W	105
V P D R A L N F A G I L V - - - - -	F W T W F - - - - -	185
N F A G I L V - - - - -	F F T V F - - - - -	29
P A T E V G G L A W M I T - Y - R F F L T Y V P L L G L K A F [L G	G 33	
F S - - - - -	- - - - -	2
R H E [A]R G G T R L A Y M L V C M [Q] W T D L - - - - -	L W A A S Y R F F L S Y S P F Y G A T G T [L L 48	

LNYQIEHHLFPSMPRHNFSKIQPAVETLCKKYNVRYHTTGMIEGTAEVESRLNEVSSKAAS
LQFQL[EHH]
LQFQL[EHH]
LNFQIEHHLFPTMPRHNFSKIQPAVETLCKKYNVRYHTTGMIEGTAEVESRLNEVSSKAAS
LNFQIEHHLFPTMPRHNFSKIQPAVETLCKKYNVRYHTTGMIEGTAEVESRLNEVSSKAAS
LNFQIEHHLFPTMPRHNFSKIQPAVETLCKKYNVRYHTTGMIEGTAEVESRLNEVSSKAAS
LNFQIEHHLFPTMPRHNFSKIQPAVETLCKKYNVRYHTTGMIEGTAEVESRLNEVSSKAAS

K M G K A Q	EIG 1B
355	105
252	125
131	87
	148

Ma524
ATT S4723
112-5
T42806
W28140
R05219
W53753

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FIG. 4B

APPROVED BY	C.G. FIG.
DRAFTSMAN	CLASS 98/07126 SUBCLASS

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GTCCCCCTGTC GCTGGCA CACCCATCC TCCCTCGCTC CCTCTGCCTT TGTCCTTGGC
 CCACCGTCTC TCCTCCACCC TCCGAGACGA CTGCAACTGT AATCAGGAAC CGACAAATAC

60*

ACGATTTCCTT TTACTCAGC ACCAACCTCAA AATCCTCAA CGCAACCCTT TTTCAGG ATG
 GCA CCT CCC AAC ACT ATC GAT GCC GGT TTG ACC CAG CGT CAT ATC AGC
 Ala Pro Pro Asn Thr Ile Asp Ala Gly Leu Thr Gin Arg His Ile Ser

120*

ACC TCG GCC CCA AAC TCG GCC AAG CCT GCC TTC GAG CGC AAC TAC CAG
 Thr Ser Ala Pro Asn Ser Ala Lys Pro Ala Phe Glu Arg Asn Tyr Gin

180*

ACC TCG GCC CCA AAC TCG GCC AAG CCT GCC TTC GAG CGC AAC TAC CAG
 Ala Pro Pro Asn Thr Ile Asp Ala Gly Leu Thr Gin Arg His Ile Ser

300

CTC CCC GAG TTC ACC ATC AAG GAG ATC CGA GAG TGC ATC CCT GCC CAC
 Leu Pro Glu Phe Thr Ile Lys Glu Ile Arg Glu Cys Ile Pro Ala His

360*

TGC TTT GAG CGC TCC GGT CTC CGT GGT CTC TGC CAC GTT GCC ATC GAT
 Cys Phe Glu Arg Ser Gly Leu Arg Glu Leu Cys His Val Ala Ile Asp

420*

CTG ACT TGG GCG TCG CTC TTG TTG CTC GCT GCG ACC CAG ATC GAC AAG
 Leu Thr Trp Ala Ser Leu Leu Phe Leu Ala Ala Thr Gin Ile Asp Lys

TTT GAG AAT CCC TTG ATC CGC TAT TTG GCC TGG CCT GTT TAC TGG ATC
 Phe Glu Asn Pro Leu Ile Arg Tyr Leu Ala Trp Pro Val Tyr Trp Ile

APPROVED BY	C. C. FIG
DRAFTSMAN	CLW 98/46763 SS

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ATG	CAG	GGT	ATT	GTC	TGC	ACC	GGT	GTC	TGG	GTG	CTG	GCT	CAC	GAG	TGT
Met	Gin	Gly	Ile	Val	Cys	Thr	Gly	Val	Trp	Val	Leu	Ala	His	Glu	Cys
							540								
GGT	CAT	CAG	TCC	TTC	TCG	ACC	AAG	TCC	ACC	CTC	AAC	ACA	GTT	GGT	
Gly	His	Gin	Ser	Phe	Ser	Thr	Ser	Lys	Ser	Leu	Asn	Asn	Thr	Val	Gly
															600
TGG	ATC	TTG	CAC	TCG	ATG	CTC	TTG	GTC	CCC	TAC	CAC	TCC	TGG	AGA	ATC
Trp	Ile	Leu	His	Ser	Met	Leu	Leu	Val	Pro	Tyr	His	Ser	Trp	Arg	Ile
															660*
TCG	CAC	TCG	AAG	CAC	CAC	AAG	GCC	ACT	GGC	CAT	ATG	ACC	AAG	GAC	CAG
Ser	His	Ser	Lys	His	His	Lys	Ala	Thr	Gly	His	Met	Thr	Lys	Asp	Gln
															660*
GTC	TTT	GTC	CCC	AAG	ACC	CGC	TCC	CAG	GTT	GGC	TTG	CCT	CCC	AAG	GAG
Val	Phe	Val	Pro	Lys	Thr	Arg	Ser	Gly	Val	Gly	Leu	Pro	Pro	Lys	Glu
															720
AAC	GCT	GCT	GCC	GTT	CAG	GAG	GAG	GAC	ATG	TCC	GTG	CAC	CTG	GAT	
Asn	Ala	Ala	Ala	Ala	Val	Gly	Gly	Glu	Asp	Met	Ser	Val	His	Leu	Asp
															780
GAG	GAG	GCT	CCC	ATT	GTG	ACT	TTG	TTC	TGG	ATG	GTG	ATC	CAG	TTC	TTG
Glu	Glu	Ala	Pro	Ile	Val	Thr	Leu	Phe	Trp	Met	Val	Ile	Gln	Phe	Leu
															840*
TTC	GGA	TGG	CCC	GCG	TAC	CTG	ATT	ATG	AAC	GCC	TCT	GGC	CAA	GAC	TAC
Phe	Gly	Trp	Pro	Ala	Tyr	Leu	Ile	Met	Asn	Ala	Ser	Gly	Gln	Asp	Tyr

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FIG. 5B

APPROVED BY	G. G. FIG.
DRAFTSMAN	CLAWO 98/367013

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GGC	CGC	TGG	ACC	TCG	CAC	TTC	CAC	ACG	TAC	TCG	CCC	ATC	TTT	GAG	CCC	*
Gly	Arg	Trp	Thr	Ser	His	Phe	his	Phe	Thr	Tyr	Ser	Pro	Ile	Phe	Glut	Pro
CGC	AAC	TTT	TTT	GAC	ATT	ATT	ATC	TCG	GAC	CTC	GGT	GTG	TTG	GCT	GCC	
Arg	Asn	Phe	Phe	Asp	Ile	Ile	Ile	Ser	Ser	Asp	Leu	Glut	Val	Leu	Ala	Ala
960																
CTC	GGT	GCC	CTG	ATC	TAT	GCC	ATG	CAG	TCC	ATG	CAG	TCC	CTC	TTG	ACC	GTC
Leu	Gly	Ala	Leu	Ile	Tyr	Ala	Ser	Met	Gln	Leu	Ser	Leu	Leu	Thr	Thr	VaI
ACC	AAG	TAC	TAT	ATT	GTC	CCC	TAC	CTC	TTT	GTC	AAC	TTT	TGG	TTG	GTC	*
Thr	Lys	Tyr	Tyr	Ile	Val	Pro	Tyr	Leu	Phe	Val	Asn	Phe	Trp	Lys	VaI	
CTG	ATC	ACC	TTC	TTG	CAG	CAC	ACC	GAT	CCC	AAG	CTG	CCC	CAT	TAC	CGC	
Leu	Ile	Thr	Phe	Leu	Gln	His	Thr	Asp	Pro	Lys	Leu	Leu	Pro	His	Tyr	Arg
GAG	GGT	GCC	TGG	AAT	TTC	CAG	CGT	GGA	GCT	CTT	TGC	ACC	GTT	GAC	CGC	*
Glu	Gly	Ala	Trp	Asn	Phe	Gln	Arg	Gly	Ala	Leu	Cys	Thr	VaI	Asp	Arg	
TCG	TTT	GGC	AAG	TTC	TTG	GAC	CAT	ATG	TTC	CAC	GGC	ATT	GTC	CAC	ACC	
Ser	Phe	Gly	Lys	Phe	Leu	Asp	His	Met	Phe	His	Gly	Ile	VaI	His	Thr	
CAT	GTG	GCC	CAT	CAC	TTG	TTC	TCG	CAA	ATG	CCG	TTC	TAC	CAT	GCT	GAG	
His	VaI	Ala	His	His	Leu	Phe	Ser	Gln	Met	Pro	Phe	Tyr	His	Ala	Glu	

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FIG. 5C

APPROVED	J. J. FIG.
BY	
DRAFTSMAN	CLASS 098/66763

PCT/US98/07126

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GAA	GCT	ACC	TAT	CAT	CTC	AAG	AAA	CTG	CTG	GGA	GAG	TAC	TAT	GTC	TAC	
Gl u	Al a	Thr	Tyr	His	Leu	Lys	Lys	Leu	Leu	Gly	Glu	Tyr	Tyr	Tyr	Val	Tyr
1260 *																
GAC	CCA	CCG	ATC	GTG	GTT	GCG	GTC	TGG	AGG	TCA	TCG	TTC	CGT	GAG	TGC	
Asp	Pro	Ser	Pro	Ile	Vai	Vai	Al a	Val	Arg	Ser	Phe	Arg	Arg	Glu	Cys	
1320 *																
CGA	TTC	GTG	GAG	GAT	CAG	GGA	GAC	GTG	GTC	TTT	TTC	AAG	AAG	TAAAAA	*	
Arg	Phe	Vai	Gl u	Asp	Gln	Gly	Asp	Vai	Vai	Phe	Phe	Lys	Lys	Lys	1380	
1440 *																

AAAAGACAAT GGACCACACA CAAACCTTGTC TCTACAGACC TACGTATCAT GTAGCCATAC

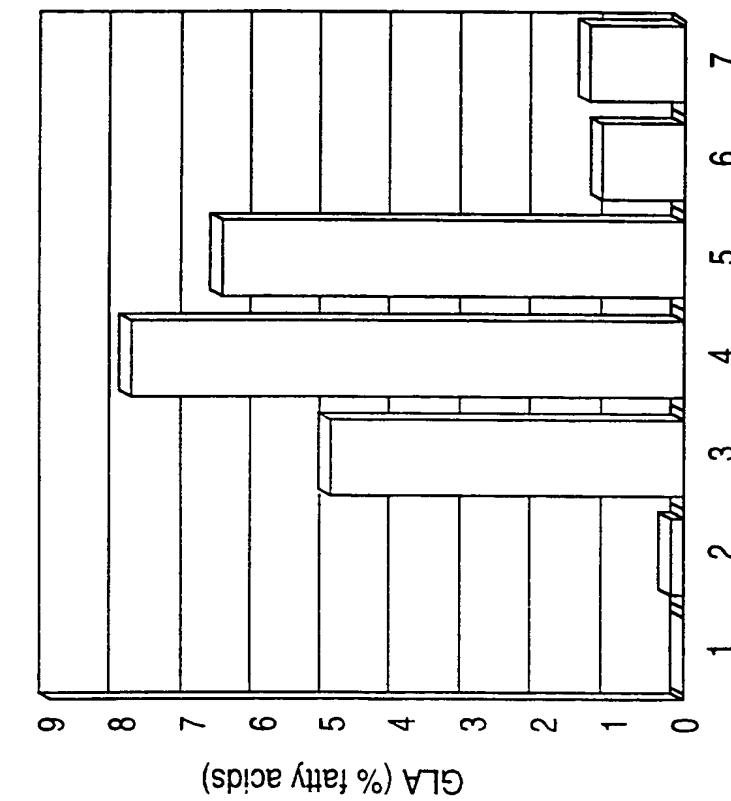
CACTTCATAA AAGAACATGA GCTCTAGAGGG CGTGTCAATTG GCCCCTCC

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FIG. 5D

APPROVED	C. G. FIG.
BY	WO 98/46763
DRAFTSMAN	CLASS SUBCLASS

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 GLA

- 18:1 to 18:2
- 18:2 to 18:3

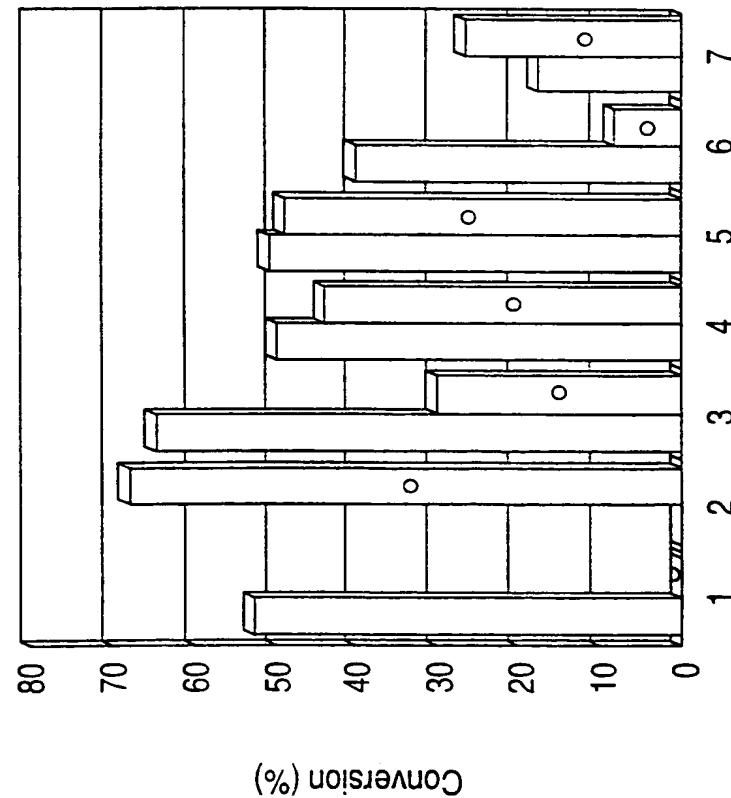


FIG. 6B

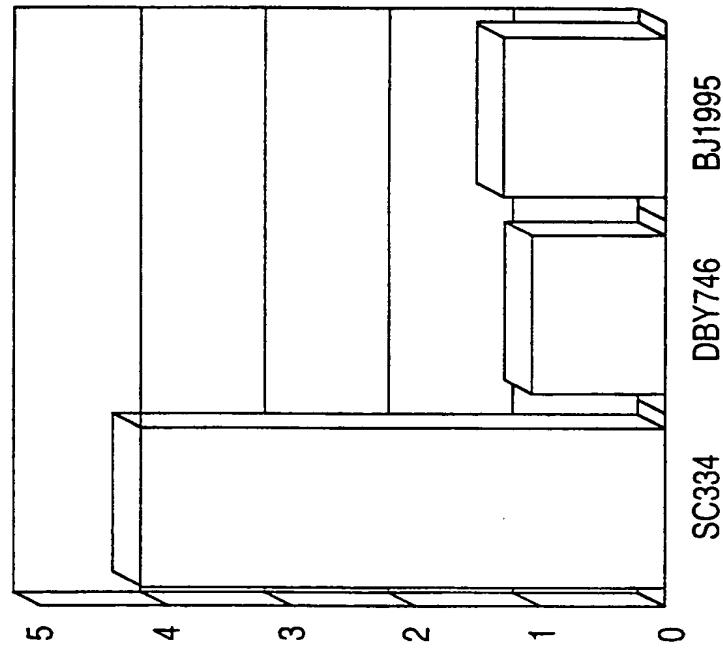
FIG. 6A

APPROVED	C. A. FIG.
BY	WO98/07126
DRAFTSMAN	CLASS / SUBCLASS

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PCT/US98/07126

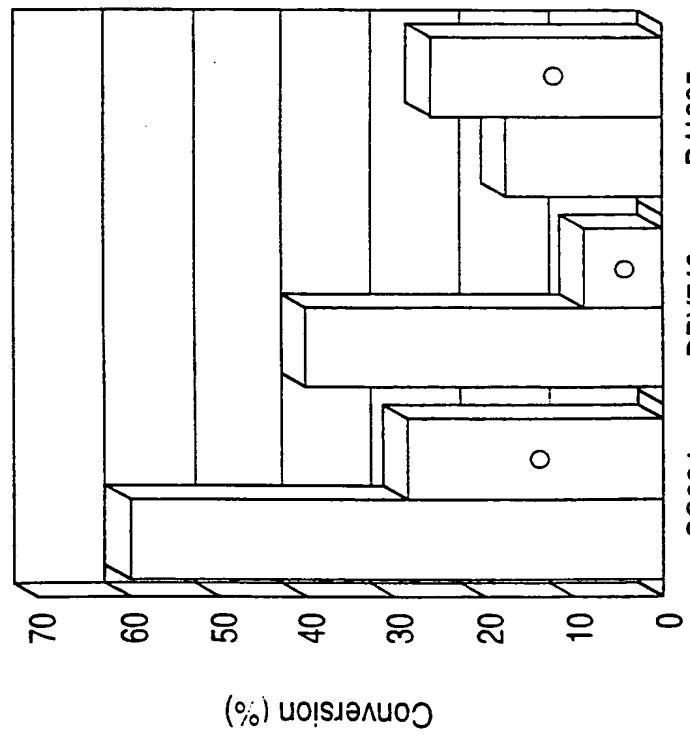
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GLA



GLA (% fatty acids)

18:1 to 18:2
 18:2 to 18:3



Conversion (%)

Strain

BJ1995

SC334 DBY746

DBY746 BJ1995

FIG. 7B

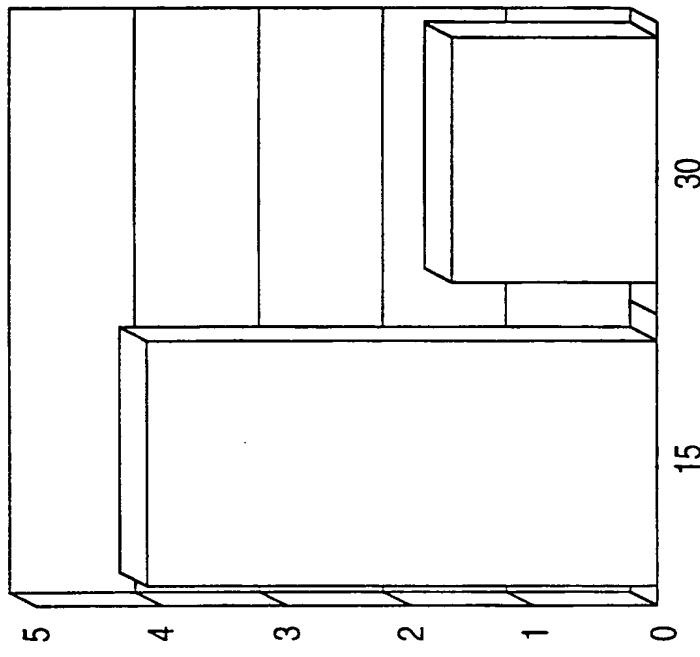
FIG. 7A

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APPROVED	C. L. F.G.
BY	CLWQ 98/461656
DRAFTSMAN	

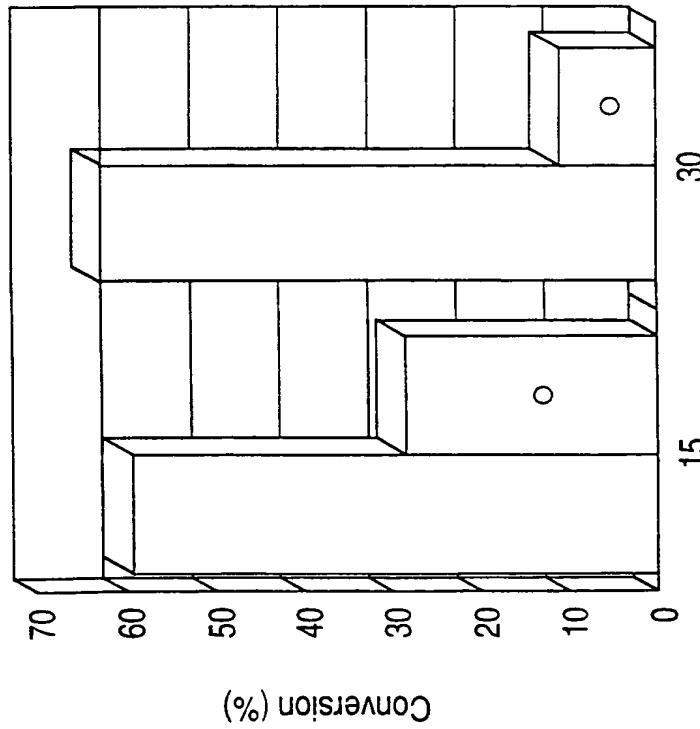
09/367013
PCT/US98/07126

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GLA (% fatty acids)

- 18:1 to 18:2
- 18:2 to 18:3



Temperature (degree)

FIG. 8B

Temperature (degree)

FIG. 8A

SUBSTITUTE SHEET (RULE 26)

APPROVED BY	C.J. FIG.
DRAFTSMAN	CLWCO 98/46763S

09/367013
PCT/US98/07126

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SCORES INIT1: 117 INITN: 225 OPT: 256
SMITH-WATERMAN SCORE: 408; 27.0% IDENTITY IN 441 aa OVERLAP

ma29gcf.pep 253538a	MG TDQGKT ... FTWEE LAAHNTKDDLLA RGRVYDVT KFL SRRH PGGVDT LLL GAGR DVT QGP TPRTFTWDEVAQRSGCEERWL V IDRKVYN I SEFTRRHPGGSRV I SHYAGQQDAT 10 20 30 40 50	10 20 30 40 50 117 118 119 120 121
ma29gcf.pep 253538a	PVFEMYHAF - GAADA IMKKYYVGT LVS NELP IFPEPTVFHKTI KTRVEGYFTDRN IDPKN DPFVAFHINKGLVKKYMNSLLIGEL - SPEQPSF - EPTKNKELTDEFREL RATVERMGLMK 60 70 80 90 100 117 118 119 120 121	60 70 80 90 100 117 118 119 120 121
ma29gcf.pep 253538a	RPE IWGRYAL IFGSLI ASYYAQL FVPPF VVERTW LQVVF - A I MGFACAQVGLNPLHDASH ANHVF - FLLYLLHILLDGAAWL TLWVFGTSFLPFLCAVLLSAVQAQAGWLQ - HDYGH 120 130 140 150 160 121 122 123 124 125	120 130 140 150 160 121 122 123 124 125
ma29gcf.pep 253538a	FSVTHNP TVWK ILGATHDF - - - FNGAS YLVMMYQHML GHHPYTN I AGADPDVSTSE - - - LS VYRKPK - WNH L - VH KF V I GHLKGASANWWNNHRH - FQHHAKPN I FH KDPDV NMLHV FV 180 190 200 210 220 181 182 183 184 185	180 190 200 210 220 181 182 183 184 185

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FIG. 9A

APPROVED	C.G. FIG.
BY	CLASS 98/46703
DRAFTSMAN	CLASS

09/367013
PCT/US98/07126

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**SCORES INIT1: 117 INITN: 225 OPT: 256
SMITH-WATERMAN SCORE: 408; 27.0% IDENTITY IN 441 aa OVERLAP**

ma29gcf.pep 230 240 250 260 270 280 : : : : : : : : : : : : P D V R R I K P N Q K W F - V N H I N Q H M F V - - P F L Y G L L A F K V R I Q D I N I L Y F V K T N D A I R V 253538a L G E W Q P I E Y G K K K L K Y L P Y N H Q E Y F F L I G P P L I P M Y F Q Y Q I - - - I M T M I V H K N W V D L 230 240 250 260 270 280	 290 300 310 320 330 340 : : : : : : : : : : : : N P I S T W H T V M F W G G K A F F V W V Y R L I V P V L Q Y L P L G K V L L L F T V A D M V S S Y W L A L T F Q A N H V V 253538a - - - A W A V S Y Y I - - - R F F I T Y - - - I P F - Y G I L G - A L L F L N F I R F L E S H W F V W V T Q M N H I V 290 300 310 320 330 340	 350 360 370 380 390 : : : : : : : : : : : : E E V Q W P L P D E N G I I Q K D W A A M Q V E T T - - - Q D Y A H D S H L W T S I T G S L N Y Q A V H H L F P N V S 253538a M E I - - - D Q E A Y - - R D W F S S Q Q L T A T C N V E Q S F F N D - - W F S - - G H L N F Q I E H H L F P T M P 340 350 360 370 380 390	 400 410 420 430 440 : : : : : : : : : : : : Q H H Y P D I L A I I K N T C S E Y K V P Y L V K D T F W Q A F A S H L E H L R V L G L R P K E E X 253538a R H N L H K I A P L V K S L C A K H G I E Y Q E K P L L R A L L D I I R S L K K S G K L W L D A Y L H K X 380 390 400 410 420 430
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FIG. 9B

APPROVED	G.G. FIG.
BY	CLWQ 98/467635S
DRAFTSMAN	

09/367013
PCT/US98/07126

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**SCORES INIT1: 231 INITN: 499 OPT: 401
SMITH-WATERMAN SCORE: 620; 27.3% IDENTITY IN 455 aa OVERLAP**

ma524gcg.pep	MAAAPSVRTFTRAEVLNAAEALNEGKKDAEAPFLMIIDNKVYDVREFVDPGGSVILTH-	10	20	30	40	50	59
253538a	QGPTPRYFTWDEV-----AQRSGCCEERWLVIDRKVYNISEFTRRHPGGSRVISHY	10	20	30	40	50	
ma524gcg.pep	VGKDGTDVFDTFFHPEAAW--ETLANFYYVGDIIDE---SDRDIKNDDFAAEVRKLRTLFQSQL	60	70	80	90	100	110
253538a	AGQDADTPFVAFHINKGLVKKYMNSSLIGELSPEQSFEPTKNKELTDEFRELRTVERM	60	70	80	90	100	110
ma524gcg.pep	GYYDSSKAYYAFKVSFNLCIWGLSTVIVAKWGQTSTLANVLSAALLGLFWQQCGWLAHDF	120	130	140	150	160	170
253538a	GLMIKANHVFFFLLYLLHILLLDGAAWTLTWVFG-TSFLPFLLCAVLLSAVQAQAGWLQHDY	120	130	140	150	160	
ma524gcg.pep	LHHHQVFQDRFWGDLFGAFLGGVCQGFSSSMWKDKHNTNTHHAAPNVHGIEDPDIIDTHPLLTWS	180	190	200	210	220	230
253538a	GHLSSVYRKPKWNHVLVHKFVIGHLK GASANWMNHRHFQHHAKPNIFHKDPDVN--ML---	170	180	190	200		

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FIG. 10A

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SCORES INIT1: 231 INITN: 499 OPT: 401
SMITH-WATERMAN SCORE: 620; 27.3% IDENTITY IN 455 aa OVERLAP

ma524gcg.pep	EHALEMFSDV PDEELTRMWSRFMVLNQTTW FYFP ILS	240	250	260	270	280	290
253538a	-HV F - VLGE W QP IEY GKKKL KYLPYNHQHEYFFLIGPPLLIPMYFQYQIIMTMIVH	230	240	250	260	270	
ma524gcg.pep	KPSGARVPISLVEQLSLAMHW TWYLATMFLFIK-	300	310	320	330	340	349
253538a	K-----NWVDLAWAVSYYIRFFFITYIPFYGILGALLFLNFIRFLESHWFWVWTQ	280	290	300	310	320	
ma524gcg.pep	LNHNGMPVISKEEAVDMDFFTKQITGRDVHPGLFANWFTGGLNYQIEHHLFPSMPRHNF	350	360	370	380	390	409
253538a	MNHIVMEI-DQEAYR-DWFSSQLTATCNVEQSFFNDWFSGHLNFQIEHHLFPTMPRHNL	330	340	350	360	370	
ma524gcg.pep	SKIQPAVETLCKKVNRYHTTGMIEGTAEVF SRLNEVSKAASKMGKAQX	410	420	430	440	450	
253538a	HKIAPLVKSLCAKHGIEYQEKP L RALDI IRSLKSGKLWL DAY LH KX	390	400	410	420	430	